

WHAT IS CLAIMED IS:

1. A digital signal transmission system using a digital modulation system comprising a digital signal transmitter having a first digital signal processing unit and a digital signal receiver receiving a digital signal from said transmitter, wherein said digital signal receiver comprising:

a second digital signal processing unit for processing said digital signal from said transmitter and outputting a digital demodulated signal and a correlation value signal;

a signal converter coupled with said second digital signal processing unit and supplied said correlation value signal therefrom, for generating a waveform indicating a transmission condition including a main wave in response to said correlation value signal; and

a display coupled with said signal converter, for displaying said waveform indicating a transmission condition in said digital transmission system.

2. A digital signal transmission system according to claim 1, wherein said signal converter generates a waveform indicating said main wave and a reflected wave relating to said digital signal transmitted.

3. A digital signal transmission system according to claim 1, wherein said second digital signal processing unit further generates a BER signal indicative of the bit error rate of said digital signal and a

field intensity signal indicative of the field intensity of said digital signal, and said display further displays said BER signal and said field intensity signal.

4. A digital signal transmission system according to claim 1, wherein said digital modulation system is a multi-carrier modulation system, said signal converter further generates a guard interval signal, and said display further displays a guard-interval based on said guard interval signal in association with said waveform.

5. A digital signal transmission system according to claim 4, wherein said signal converter further generates a time scale signal and said display further displays a time scale based on said time scale signal in association with said waveform.

6. A digital signal transmission system according to claim 3, wherein said digital modulation system is a multi-carrier modulation system, said signal converter further generates a guard interval signal, and said display further displays the guard interval based on said guard interval signal in relation to the main wave of said waveform.

7. A digital signal transmission system according to claim 3, wherein said signal converter further includes an abnormality detecting unit for detecting an abnormality of said digital signal from said correlation value signal and outputting a signal indicative of

said abnormality.

8. A digital signal transmission system according to claim 7, wherein said signal converter further includes a memory unit, in which the signal indicative of said abnormality is stored and said display indicates simultaneously said waveform with said abnormality and a current waveform with no abnormality indicating said transmission condition.

9. A digital signal transmission system according to claim 4, wherein said guard interval is so designed to be variable in a time period.

10. A digital signal receiver, to which a digital signal from a digital signal transmitter using a digital modulation system is supplied, comprising;

a second digital signal processing unit for processing said digital signal and outputting a digital demodulated signal and a correlation value signal;

a signal converter coupled with said second digital signal processing unit and supplied said correlation value signal therefrom, for generating a waveform indicating a transmission condition including a main wave and a reflected wave in response to said correlation value signal; and

a display coupled with said signal converter, for displaying said waveform indicating a transmission condition of said digital signal.

11. A digital signal receiver according to claim 10, wherein said second digital signal processing unit

further generates a BER signal indicative of the bit error rate of said digital signal and a field intensity signal indicative of the field intensity of said digital signal, and said display further displays said BER signal and said field intensity signal.

12. A digital signal receiver according to claim 10, wherein said digital modulation system is a multi-carrier modulation system, said signal converter further generates a guard interval signal and a time scale signal, and said display further displays a guard-interval based on said guard interval signal and a time scale based on said time scale signal in association with said waveform.

13. A digital signal receiver according to claim 11, wherein said digital modulation system is a multi-carrier modulation system, said signal converter further generates a guard interval signal and a time scale signal, and said display further displays a guard-interval based on said guard interval signal and a time scale based on said time scale signal in association with said waveform.

14. A digital signal receiver according to claim 11, wherein said signal converter further includes an abnormality detecting unit for detecting an abnormality of said digital signal from said correlation value signal and outputting a signal indicative of said abnormality.

15. A digital signal receiver according to claim

14, wherein said signal converter further includes a memory unit, in which the signal indicative of said abnormality is stored and said display indicates simultaneously said waveform with said abnormality and a current waveform with no abnormality indicating said transmission condition.

16. A digital signal receiver according to claim 13, wherein said guard interval is so designed to be variable in a time period.

17. A method of displaying a digital signal transmission condition in a digital signal receiver, to which a digital signal from a digital signal transmitter using a digital modulation system is supplied, comprising the steps of;

processing said digital signal in a second digital signal processing unit of said digital signal receiver;

outputting a digital demodulated signal and a correlation value signal from said second digital signal processing unit;

generating in a signal converter coupled with said second digital signal processing unit, a waveform indicating a transmission condition including a main wave in response to said correlation value signal; and

displaying said waveform indicating a transmission condition of said digital signal on a display.

18. A method of displaying a digital signal transmission condition according to claim 17, further

comprising the steps of;

generating a BER signal indicative of the bit error rate of said digital signal and a field intensity signal indicative of the field intensity of said digital signal in said second digital signal processing unit; and

displaying said BER signal and said field intensity signal on said display.

19. A method of displaying a digital signal transmission condition according to claim 17, wherein said digital modulation system is a multi-carrier modulation system, and further comprising the steps of;

generating a guard interval signal and a time scale signal in said digital converter; and

displaying a guard-interval based on said guard interval signal and a time scale based on said time scale signal in association with said waveform on said display.

20. A method of displaying a digital signal transmission condition according to claim 18, wherein said digital modulation system is a multi-carrier modulation system, and further comprising the steps of;

generating a guard interval signal and a time scale signal in said signal converter; and

displaying a guard-interval based on said guard interval signal and a time scale based on said time scale signal in association with said waveform on said display.

21. A method of displaying a digital signal transmission condition according to claim 17, further comprising the steps of;

detecting an abnormality of said digital signal from said correlation value signal; and

outputting a signal indicative of said abnormality.

22. A method of displaying a digital signal transmission condition according to claim 21, further comprising the steps of;

storing a signal indicative of said abnormality in a memory unit; and

indicating simultaneously said waveform with said abnormality and a current waveform with no abnormality indicating said transmission condition.

23. A method of displaying a digital signal transmission condition according to claim 19, further comprising the step of changing a period of said guard interval.

24. A method of displaying a digital signal transmission condition according to claim 21, wherein the step of detecting the abnormality of said digital signal is the step of detecting on the basis of relative positions between said waveform and said guard interval.

25. A method of displaying a digital signal transmission condition according to claim 21, further comprising the step of generating an alarm when said

abnormality is detected.

26. A method of displaying a digital signal transmission condition according to claim 21, wherein the step of detecting the abnormality of said digital signal comprises the steps of;

dividing a displaying region on said display into a plurality of regions; and

deciding whether said abnormality is presence or absence on the basis of the position of said region which said waveform is indicated.